

Attachment A

CONTRACT NO. 4400005021
STATE PROJECT NO. H.005734
FEDERAL AID PROJECT NO. H005734
LA 447 CORRIDOR STUDY
ROUTE LA 447
LIVINGSTON PARISH

SCOPE OF SERVICES - OVERVIEW **FOR ONLY ENVIRONMENTAL ASPECTS OF CONTRACT**

The Consultant shall evaluate the social, economic, and environmental consequences of the alternatives (including the no-build) and present this information in the Environmental Assessment (EA) document. Preparation of EA (Stage 1 document) shall be in accordance with the National Environmental Policy Act (NEPA), the Federal Highway Administration (FHWA) Technical Advisory (TA) 6640.8a, Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act- A Legacy for Users (SAFETEA-LU), the current transportation plan in MAP-21, applicable rules, laws, guidance and regulations, and other applicable federal and Louisiana Department of Transportation and Development (LADOTD) publications. The Consultant shall take into consideration the sequence of construction when developing alternative. If the selected alternative from the EA document requires an Interchange Modification report (IMR), these reports are not included as part of ~~this contract~~the initial contract but, if needed, the IMR will be handled by a supplement.

The IMR will be handled by a supplement.

In addition to the formal EA document and Finding of No Significant Impact (FONSI), the Consultant may be required to develop separate reports including, but not limited to: Wetland Finding, Phase I Environmental Site Assessment, Phase I Cultural Resources Survey Reports, Noise Analysis, Section 4 (f) statement, Conceptual Stage Relocation Plan. A Scoping Meeting and up to two Public Meetings shall be held to inform the public of the project, potential impacts of the project, and to obtain comments and input from the public on the alternatives, design features, and impacts. A Public Hearing shall be held to inform the public of the results and conclusions of the EA and to obtain input from the public. The Consultant shall obtain a FONSI from the FHWA once the EA has been approved by FHWA.

Stage 1 shall minimally require the consideration of the following:

- Develop a Project Work Plan with schedule, contacts, public and agency outreach details, etc.
- Engineering studies necessary to develop alternatives considered to the extent necessary to complete the environmental stage
- Technical studies to determine social, economic and environmental impacts at a level of detail consistent with the requirements of NEPA and other applicable laws and regulations
- An Environmental Inventory / Summary on the LA 447 Corridor Study
- Preparation of a draft and final EA

- Preparation of a Finding of No Significant Impact (FONSI)
- Preparation of a Mitigation Plan

An alternative analysis report was prepared previously for the project. The Consultant shall be provided a copy of this study, which contains existing conditions, traffic forecasting, and corridor alternatives. As necessary, the Consultant shall confirm the findings and this information shall be contained in this report.

TASK #1 - PROJECT WORK PLAN & SCHEDULE

A Project Work Plan shall be developed that includes details on the participants, the project scope, public and agency participation, and the project schedule. Three final copies of the Project Work Plan shall be provided to the DOTD. The project work plan shall be presented within two weeks after the project kick-off meeting following receipt of a Notice to Proceed.

Deliverable: Three final copies of the Project Work Plan shall be provided to the DOTD.

TASK #2 - AGENCY AND PUBLIC COORDINATION

Agency and public input shall be gathered through a combination of the Scoping Meeting, previous SOV responses, second round of SOV letters, interagency meetings, up to two Public Meetings, Agency Meetings, and one Public Hearing. Details of the public involvement process and plans shall be provided in the Project Work Plan. Agency and public input shall be considered in the final recommendations, and shall be gathered through a combination of stakeholder identification and involvement, interagency meetings and public involvement/public outreach efforts (including outreach to local public officials). The Consultant shall prepare a summary of the public participation for inclusion in the appropriate section of the draft and final EA.

SCOPING MEETING

A Scoping Meeting shall be held after receipt of the Notice to Proceed and after the development of the draft work plan. Federal and state agencies with a stake in the project shall be invited as well as any local stakeholders and planning commission.

SOLICITATION OF VIEWS (SOV)

The DOTD shall provide the Consultant with a copy of the SOV project mailing list. The Consultant shall review previous SOV responses. The Consultant shall draft a second SOV letter for review and comment by the DOTD. The Consultant must compile an additional SOV project mailing list that includes stakeholders and landowners within the study area. Efforts shall be made to identify additional neighborhood associations, civic, business groups, church pastors, potentially affected commercial/industrial and residential properties, and special traffic generators.

A SOV packet shall be distributed to Federal, State, and local agencies, organizations, and individuals whose expertise may assist with the identification of possible adverse concerns (economic, social, or environmental) within the project area. This SOV packet shall describe the alternative alignments being studied in the EA and contained a preliminary

project description and vicinity map. The responses to this SOV shall be provided by DOTD to the Consultant to review and incorporate into the EA. The DOTD shall provide the Consultant with an update distribution list to be used in the SOV, and the Consultant shall be responsible for supplementing and maintaining it throughout the duration of the project.

The Consultant shall maintain a contact list of all persons expressing interest in the project. Upon the DOTD approval of the project mailing list, the Consultant shall distribute the public meeting (scoping) announcement with a SOV letter to designated agencies, governments, and organizations.

All communications and coordination with other Federal, State and local agencies shall be closely coordinated with and approved by the DOTD's Environmental Coordinator prior to contact.

Deliverables: A summary of all comments received from SOV and required coordination. A copy of the SOV and mailing list is also required.

AGENCY MEETINGS

The Consultant shall be responsible for setting up Agency Meetings addressing environmental issues including, but not limited to, coordinating meetings with other local, federal, and state agencies, public official meetings, DOTD/FHWA progress meetings, and conference calls. Early coordination will include the Consultant arranging, conducting, and summarizing a kick-off meeting with the project team within 10 days of receiving the Notice to Proceed.

The Consultants shall handle all arrangements associated with the Agency Meeting(s) including scheduling, reservation of venue, agenda, sign-in sheets, handouts, taking meeting minutes, distributing draft minutes for comments, and sending out final meeting minutes. All of these arrangements will be subject to the DOTD Environmental Section's review and approval prior to distribution.

Deliverables: A paper copy and an electronic (PDF) format of draft and final meeting minutes for each agency meeting shall be provided to the DOTD.

PUBLIC MEETINGS

Public Meetings are required during the environmental review process to ensure citizens have sufficient opportunity to provide input. Up to two Public Meetings will be required for this project. If additional Public Meetings are required, these will be added at the discretion of the DOTD and FHWA. The meetings shall follow open house format to allow appropriate review of project information throughout the public meeting period.

The Consultants shall handle all arrangements associated with the Public Meeting(s) including the reservation of venue, preparation and mailing(s) of public notice, preparation of appropriate exhibits, preparation of the technical presentations, handouts, and all other meeting related tasks. All of these arrangements are subject to the DOTD Environmental

Section's approval. The Consultant shall advertise the notices of the Public Meetings in newspapers and inform local, state, and federal agencies and officials. The Consultant shall prepare and provide visualizations for public meetings. Visualizations shall include handouts, PowerPoint presentations, and various large scale exhibits depicting the proposed alternatives, existing ROW, and required ROW. The Consultant shall develop between three and eight typical sections and estimate the required right-of-way, if any, for each of the different alternatives. Exhibits depicting all alternatives and estimated right-of-way takings shall be prepared for the Public Meetings.

Deliverables: One exhibit shall depict the entire project area at a scale of approximately 1 inch = 75 feet. One draft copy of visualizations and all meeting materials shall be submitted to LADOTD for review, comment and approval at least three weeks prior to the public meetings. Upon revision, a paper copy and an electronic (PDF) format of all meeting materials shall be submitted to the DOTD.

The notice for each of the Public Meetings shall be published two weeks and one week before the date of the Public Meeting. The text of the notice shall be provided to the DOTD's Environmental Coordinator for review at least one month prior to the first anticipated date of publication.

The Consultant shall conduct the Public Meetings and shall have knowledgeable informed staff present to address queries from the public of the environmental, engineering, and other project related issues. The Consultant shall prepare a transcript of each Public Meeting, including a verbatim transcript of recorded statements, copies of meeting materials, copies of official notice/press releases/and proof of publication, sign-in sheets, written comments, and other meeting materials. Up to seventy-five (75) copies of each meeting transcript shall be prepared and distributed by the Consultant. Each public meeting transcript shall be provided to the DOTD for review and approval prior to distribution. A paper copy of the meeting transcript shall be submitted as well as a copy in electronic (PDF) format on a labeled CD.

PUBLIC HEARING

A Public Hearing shall be held during the review period of the Draft EA. This hearing shall be conducted using an open house format. All arrangements for the Public Hearing, including location, time, preparation and mailing of notice, preparation of appropriate exhibits, preparation of the technical presentation, and handouts shall be made by the Consultant, subject to the DOTD's review and approval.

Per the DOTD and FHWA guidelines, the Consultant shall advertise the notice of the Public Hearing in the newspaper and inform local, state, and federal agencies and officials. The text of the Public Hearing notice as well as other meeting materials outlined below shall be provided to the DOTD for review at least three months prior to the anticipated Public Hearing date. The DOTD shall review and approve all hearing materials prior to authorizing the advertisement and Public Hearing date. The Consultant shall prepare and provide hearing materials which shall include handouts, PowerPoint presentations, and various large scale exhibits depicting the proposed alternatives.

The Consultant shall advertise the notice of the Public Hearing (upon the DOTD's approval of the notice) in official state and local newspapers, as well as with other media (radio, television, etc.) agreed upon by the DOTD. The notice for the Public Hearing shall be published twice: the first shall be made (30 – 40) days before the date of the hearing, the second five to twelve days before. The text of the notice, including the project map, shall be provided to the DOTD Environmental Coordinator for review and approval at least three months prior to the anticipated Public Hearing date. Public Hearing exhibits and materials, including a PowerPoint presentation, shall be submitted to the DOTD Environmental Coordinator for review and approval.

The Consultant shall have knowledgeable staff present at the Public Hearing to address the queries from the public, on the environmental, engineering, and other project related issues. The Consultant shall record, prepare, and distribute a verbatim transcript for the Public Hearing, including a verbatim transcript of recorded statements. The final transcript document shall include, but is not limited to: a verbatim transcript of recorded statements, copies of meeting materials, copies of official notice/press releases/and proof of publication, sign-in sheets, written comments, and other meeting materials. A paper copy of the transcript shall be submitted for review and approval to the DOTD as well as a copy in electronic (PDF) format on a labeled CD.

All comments received during the commenting period on the EA, including those received at the Public Hearing, shall be addressed by the Consultant in the Final EA. The comments shall be presented in a matrix that clearly identifies an appropriate response and provides information on required changes to the EA. After approval by the DOTD's Environmental Section of the final documents and issuance by FHWA of the FONSI, the EA FONSI shall be distributed by the Consultant. The DOTD Environmental Section's Project Coordinator shall provide the mailing list to be used for distribution of the FONSI.

TASK #3 - ENVIRONMENTAL ASSESSMENT ANALYSIS AND DOCUMENTATION

The EA shall be prepared in accordance with the NEPA, FHWA TA 6640.8a, Section 6002 of the SAFETEA-LU, the current transportation plan in MAP-21, applicable rules, laws, guidance and regulations, and other applicable federal and the following LADOTD publications:

- Location and Survey Manual
- Roadway Plan Preparation Manual
- Hydraulics Manual
- Bridge Design Manual
- Louisiana Standard Specifications for Roads and Bridges
- The Stage 1 Manual of Standard Practice

The EA shall conform to all applicable DOTD policies. In addition to the format contained in TA 6640.8a, the EA shall include the DOTD's environmental determination checklist and summary of commitments, mitigation, and required permits. The EA approved for public distribution and the EA with the FONSI, shall be submitted in both Microsoft Word and PDF electronic formats, in addition to the paper copies required as outlined in Deliverables section. The EA shall

incorporate relevant engineering, traffic, or other data derived from other tasks detailed in this scope of work.

SUMMARY OF PERMITS, MITIGATION, AND COMMITMENTS

A summary of all permits, mitigations, and commitments shall be provided at the beginning of the EA. The Consultant shall identify all applicable permits and certifications likely to be required for the proposed project alternatives and address the issues relevant to such permits or future coordination that may be needed. All qualitative data needed by the DOTD to complete required permits shall be provided by the Consultant. The permits to be identified include but are not limited to:

- Louisiana Coastal Zone Permit
- Clean Water Act, Section 404 Wetland Permit
- Louisiana Scenic Stream Permit
- Construction National Pollutant Discharge Elimination System Storm Waters Permit
- Clean Water Act, Section 401 Water Quality Certification
- Rivers and Harbors Act, Section 10 Bridge Permit (USCG – Bridge Permit)
- Levee Permits
- Any permits associated with work within Wildlife Management Areas

Any mitigation measure or enhancement shall be included in the summary.

STUDY AREA AND LOGICAL TERMINI CONFIRMATION AND DOCUMENTATION

The Consultant shall prepare a Logical Termini request that includes a map with project limits identified on the map. This request shall be approved by the DOTD's Environmental Section prior to submission to FHWA for review and approval.

DOCUMENTATION OF PURPOSE AND NEED

The Consultant shall verify and refine the identified purpose and need for the project. The purpose and need shall be clearly described in accordance with FHWA guidance, coordination during the preparing of the Stage 0 feasibility study, and collaboration among LADOTD, FHWA, and the project team. The following issues and other relevant supporting information may be included in the discussion of the project's purpose and need: vehicle capacity needs, system linkage needs, transportation demand, social demands, economic development, modal interrelationships, congestion, safety, and roadway deficiencies.

The Consultant shall coordinate with local, regional, state and federal agencies to obtain available information concerning the proposed project's purpose and need.

ALTERNATIVES

The Consultant shall evaluate two design alternatives currently defined for this project. A description of these alternatives is contained in the February 2014 Alternative Analysis Report document to be provided to the Consultant by the DOTD. As appropriate the EA shall consider the effect of a NEPA-derived alternative. The Consultant shall evaluate design considerations consistent with the DOTD's Complete Streets Policy to ensure "a fully-integrated transportation system that safely accommodates pedestrians, bicyclists, and transit users."

All alternatives considered in the feasibility study, and if necessary, a NEPA-derived alternative shall be in the EA. Only viable alternatives that meet the project's purpose and need shall be considered reasonable. If any alternative is dismissed at an early stage, the reason for the dismissal shall be discussed in the EA. The alternatives shall address the purpose and need of the project. These alternatives, including the No-Build, shall be described and analyzed in the EA. The Preferred Alternative, and the justification for its selection as such, shall be identified in the EA.

The Consultant shall develop between three, and eight typical sections and estimate the required ROW for each alternative. The estimated ROW takings, including required relocations, shall be used in analyzing the various impacts of the alternatives and for estimating costs. Exhibits depicting the alternatives and estimated ROW takings shall be prepared for the Public Meeting(s) and Hearing.

IMPACTS

The EA shall include a detailed analysis of the environmental effects associated with the project alternatives, including the No-Build. Issues to be considered include, but are not limited to: traffic patterns, required permits, land use, community/social, economic, historic, cultural, recreational, archaeological, noise, air, hazardous waste/materials, wetlands, floodplains, farmland, and endangered or threatened species and/or their habitat. Some of these impacts may require separate documentation, the findings of which shall be incorporated in the EA. For all identified unavoidable adverse impacts, the Consultant shall define measures to minimize such impacts. As appropriate, adverse impacts that cannot be avoided or minimized shall be justified. Potential mitigation measures designed to reduce or alleviate impacts shall be identified in the EA.

Coordination (via meetings, e-mail, phone conversations and letters) with local officials and resource agencies shall be necessary through the impact identification process. The DOTD Environmental Coordinator shall be kept informed of all coordination efforts prior to the Consultant making contacts with resource agencies. All such coordination and communication efforts shall be documented with the DOTD Environmental Coordinator cc'd on all communication. Items of special or local interest shall be noted and evaluated within the context of the project.

Items to be discussed in the EA include, but are not limited to:

A. Land Use

Dominant land use in the project area shall be mapped and cataloged in terms of urban land (commercial, residential, or industrial), farmland, recreational land/facilities, natural (forested) undeveloped, undeveloped, or water. Impacts per land use type shall be defined and quantified. The Consultant shall detail the project's consistency with land use plans adopted by Livingston Parish and/or the City of Walker and identify any adverse impacts.

B. Farmland

Prime and other important farmlands have been identified by the U.S. Department of Agriculture (USDA) because they are of major importance in meeting the nation's short and long range needs for food and fiber. The project's impact on prime farmland soils in the project area shall be assessed. As necessary, consultation with the USDA's Natural Resources Conservation Service (NRCS) shall be conducted to quantify any impacts and to develop appropriate mitigation.

C. Wetlands

Potential wetlands within the study area shall be initially identified via desktop investigations using aerial and infrared photography, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory maps, U.S. Geological Survey quadrangle maps, NRCS soil maps, and other available resources.

A Wetlands Findings Reports delineating impacts to wetlands and Other Waters of the United States shall be prepared during the EA process.

A field survey shall be conducted on all alternatives, within the required ROW and/or limits of construction, whichever is greater. Wetlands shall be delineated in accordance with the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and the 2010 USACE Atlantic and Gulf Coastal Plain Regional Supplement. Field-delineated wetland boundaries shall be documented with sub-meter capable GPS units, then mapped using current USACE GIS/wetland mapping guidelines. Field-determined characteristics and delineation data for wetlands occurring within the study area of the alternatives shall be recorded on currently accepted USACE Wetland Determination Data Forms by the Consultant and provided within the Wetlands Finding Report. Ecological values and potential impact quantities for all wetlands and Other Waters of the United States identified within the study areas shall be calculated in acres in the report and provided to the DOTD's Environmental Section for use in the subsequent permit application process, which is not included in this scope.

Deliverables: The Wetlands Finding Report, using the latest USACE criteria, shall be submitted to the DOTD for review and comment. It shall include reproducible maps and photographs of each soil sample taken during wetland delineation activities. Soil sample photographs shall include appropriate Munsell soil chart pages for each sample. Quadrangle and layout maps provided in the report shall depict locations of delineated wetland areas and respective project station numbers. If wetland impacts are minor and the Wetlands Findings Report small, the report may be placed in an appendix of the EA document as needed. The final document along with all associated GIS files/data shall also be provided to the DOTD's Environmental Section. All potential permits and their requirements to implement the project

shall be identified. All items necessary to obtain the permits (with concurrence of the DOTD) shall be provided by the Consultant.

Five paper copies of the draft wetland finding report and two copies of each revision shall be submitted to the LADOTD's Environmental Section for review and approval. Once approved, five copies of the final report shall be submitted to the DOTD's Environmental Section, as well as one electronic copy in PDF format on a labeled CD. Associated GIS files/data used in preparation of the documents shall also be provided to the DOTD.

D. Wetland Reserve Program (WRP)

The Consultant shall coordinate with the NRCS to determine the location of any WRP properties in the project area. All WRPs shall be mapped in GIS and used as a constraint to avoid when evaluating alternatives. If the project impacts a WRP property, the Consultant shall immediately notify the DOTD's Environmental Section.

E. Water Resources

The Consultant shall identify and quantify all impacts (particularly water quality) to water resources including surface water, groundwater, water wells, and sole source aquifers. Existing conditions of water resources shall be determined through research of Louisiana Department of Environmental Quality, DOTD, and U.S. Environmental Protection Agency databases and other relevant documents.

F. Endangered & Threatened Species

The Consultant shall review all accessible and peer-reviewed documentation and databases regarding the presence of any Threatened and Endangered species for each alternative. The Consultant shall define and describe the protected species associated with the subject project, if applicable. At minimum, species occurrence records shall be obtained from USFWS and the Louisiana National Heritage Program (LNHP), maintained by the Louisiana Department of Wildlife and Fisheries (LDWF), prior to the initiation of field surveys.

Field surveys shall be conducted to determine the presence (relative abundance) or absence of protected species and/or their habitat, if applicable. Surveys shall confirm the presence of suitable habitat for a particular Threatened and Endangered species and determine if there is a reasonable possibility that a local population of those Threatened and Endangered species are present in the area.

Deliverables: A Biological Survey Report documenting field survey methods, conclusions, and recommendations shall be written. Coordination with knowledgeable staff representing the U.S. Fish and Wildlife Service (USFWS) and LDWF shall be conducted in order to determine impacts by the project. Coordination with these agencies shall be made through the DOTD's Environmental Section or with the express approval of the DOTD. Maps showing the areas of concern to threatened and endangered species and their habitats shall be included in the biological report. However, the biological report documenting Threatened and Endangered Species in the project area shall not be distributed to the public nor shall the maps or the report be included as an appendix of the EA. Attempts shall be made to avoid impacts to any protected species or their habitats when planning the alternatives. Five copies of the draft Biological

Survey Report and two copies of each revision shall be submitted to the DOTD for approval. Once approved, five copies of the final report shall be submitted to the DOTD as well as an electronic copy (PDF) on a labeled CD.

If, through coordination with the appropriate agencies and from survey results, it is determined that a Biological Assessment is required to quantify project impacts to any threatened and/or endangered species, the Consultant shall develop a Biological Assessment (BA). The BA, shall include maps showing the areas of concern to threatened and endangered species and their habitats, shall document field survey methods, agency coordination, conclusions, and mitigation recommendations. Five copies of the draft BA report and two copies of each revision shall be submitted to the DOTD for review, comment, and approval. Once approved, five copies of the final report shall be submitted to the DOTD as well as an electronic PDF copy on a labeled CD. This report shall not appear in the EA.

G. Aesthetics/Unique or Environmentally Sensitive Areas

The Consultant shall identify trees considered aesthetically important per the DOTD Office of Engineering in the Engineering Directives and Standards Manual (EDSM No: I.1.1.21) Treatment of Significant Trees in LADOTD Right-of-Way as well as any other natural and/or community features identified as aesthetically important during field investigations, the SOV, and public outreach process. The Consultant shall evaluate changes in the visual context of the project area that may occur as a result of the proposed project. As necessary, visual simulation will be prepared to depicted changes in the aesthetic condition required from the alternatives.

H. Scenic Streams

The Consultant shall address impacts associated with any Scenic Stream and prepare a Class B Scenic Stream permit application, if required, for each scenic stream in the project area.

Deliverables: Seven copies of the Class B Scenic Stream permit application (all with original photos or color laser print copies) shall be provided to the DOTD's Environmental Section.

I. Environmental Site Assessment

A Phase 1 Environmental Site Assessment (ESA) shall be performed for this project. The ESA shall conform to ASTM Standard E 1527-05. The ESA shall following four components: records review, site reconnaissance, interviews, and report preparation. The Consultant shall meet with the DOTD's Environmental Coordinator if Recognized Environmental Conditions (RECs) are discovered within the project area. Results of site evaluations, findings, conclusions, and opinions concerning the site's impact shall be provided in the ESA.

The Consultant shall conduct a project site visit. The site visit shall consist of gathering sufficient field information for developing an understanding of the physical, engineering, and environmental features of the site and will include site conditions recordation (i.e. pictures, plans, etc.). Data collected during the site visit shall include, but not limited to, land use, structure type and vacancy status for structures within the vicinity of concepts; environmental conditions; utility types and vendors; and cultural resources. The Consultant will have on hand for the site visit appropriate aerials or other base maps for the identification of required data.

Deliverables: Five paper copies, two copies of each revision, and one electronic PDF version of Phase I ESA Draft and Final report shall be submitted to the DOTD.

J. Noise

A highway traffic noise analysis shall be conducted for all Build Alternatives and the No-Build Alternative in accordance with the following:

- LADOTD, Highway Traffic Noise Policy, date July 2011
- Chapter 23, Part 772, Code of Federal Regulations: Procedures for Abatement of Highway Traffic Noise and Construction Noise
- FHWA-PD96-046, Measurement of Highway Noise
- FHWA Traffic Noise Model Technical Manual and User's Guide (TNM Version 2.5)
- Highway Traffic Noise: Analysis and Abatement Guidance, dated June 2010 (Revised January 2011).

Noise measurements shall be taken and the current FHWA approved noise model (FHWA TNM Version 2.5) shall be used. Noise shall be modeled and, if needed, a Noise Barrier Analysis shall be performed as per DOTD's most recent noise policy (July 2011). This information shall be presented in a separate technical document prepared by the Consultant.

The Consultant shall make necessary field visits for field review and noise measurements. The Consultant shall locate receivers where noise samples shall be taken and locate traffic count locations, and obtain the DOTD's concurrence prior to the commencement of fieldwork.

This work shall include the following sub-tasks:

- 1) Identification of Noise Sensitive Areas: Existing permitted or programmed uses or activities which may be affected by highway noise shall be identified within the project corridor.
 - i) Map
 - ii) Brief narrative
- 2) Determination of Existing Noise Levels
 - i) Field Measurements: Field measurements shall be taken throughout the corridor in each major segment (between major intersections). Measurements shall be taken on both sides of the corridor at receiver locations approved by the DOTD. Traffic counts / vehicle classification counts shall be conducted simultaneously with the noise measurements. The purpose of the field noise measurements shall be to determine the existing noise environment and provide a general method of corroborating noise model results.

- ii) Establish field noise measurement program:
 - a. Through a review of plans, maps and aerial photos and discussion with the DOTD, determine preliminary locations where noise samples shall be taken.
 - b. Locate traffic count locations
 - c. Prepare noise field monitoring memorandum documenting the foregoing information
 - d. Review with the DOTD project staff
 - e. Revise per DOTD comments
 - f. Finalize plan during field review, discuss with the DOTD.
 - iii) Conduct field noise measurements and traffic counts and speed estimation.
 - iv) Validate mode to within 3dBA
 - v) Summarize findings for inclusion in the noise report.
- 3) Estimate Highway Noise for No-Build Alternative
 - i) Estimate existing roadway noise levels using the TNM noise model
 - a. Input current horizontal and vertical roadway and receiver geometry
 - b. Input traffic volume, classification and speed information (provided by the DOTD) for build and design years
 - c. Run and check TNM model
 - d. Prepare noise contour for preferred alternative
 - d. Review results with the DOTD staff
 - e. Revise per the DOTD comments
 - ii) Summarize findings for inclusion in the EA
- 4) Prediction of Traffic Noise Levels for all Build Alternatives:
 - i) Estimate existing roadway noise levels using the TNM noise models:
 - a. Input project horizontal and vertical roadway geometry
 - b. Locate future uses not currently built, but those which are permitted.
 - c. Input traffic volume, classification and speed information (provided by the DOTD)
 - d. Run and check TNM model
 - e. Review results with DOTD staff
 - f. Revise per DOTD comments
- 5) Summarize findings for inclusion in the Noise Report:
 - i) Evaluation of Traffic Noise Impacts:

- a. Compare existing and future noise levels with the DOTD Noise Abatement Criteria
 - b. Summarize finding for inclusion in the Noise Report
- 6) Evaluation of Alternate Noise Abatement Measures to Mitigate Impacts
 - i) Traffic management measures
 - ii) Alteration of horizontal and vertical alignments
 - iii) Construction of noise barriers:
 - a. Determine acoustical feasibility of constructing noise barriers in the various impacted sections of the project roadway
 - b. Determine the appropriate barrier length, height and location to achieve needed abatement.
 - c. Determine construction costs for noise barrier alternates using DOTD-provided unit cost(s).
 - d. Determine the reasonableness of constructing noise barriers
 - iv) Insulation of Activity Category D land uses facilities listed in the DOTD noise policy.
 - v) Acquisition of property rights to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise.
- 7) The noise impact report shall be submitted either as a technical appendix to the EA or as a separate report, at the discretion of the DOTD, for review and comment by the DOTD. The report shall include standard the DOTD construction noise impact and control language and shall include all of the TNM input values and output tables. A summary of the text shall be included in the appropriate section of the EA.

Deliverables: Four copies of the Draft Noise Study, and three copies of each revision, shall be submitted to the DOTD Environmental Section. Upon review, comment and approval, five copies of the Final Noise Study and one electronic copy (PDF), shall be submitted to the the DOTD Environmental Section for distribution.

K. Air Quality

As the project is within a Non-Attainment zone for Ozone, a project level air quality analysis shall be performed using the latest NAAQS and EPA model. A conformity determination is required. The impacts of the proposed action to air quality in the region shall be considered and discussed in the EA. Also, the impact on air quality during construction of the project shall be discussed in the EA.

Deliverables: This information shall be presented in a separate technical document by the Consultant. Four copies of the Draft Air Quality Study shall be submitted to the DOTD's Environmental Coordinator. Upon review, comment and approval, five copies of the Final Air Quality Study and one PDF version, shall be submitted to the DOTD's Environmental Section Administrator for distribution.

L. Cultural Resource Survey and Archaeological/Historic Properties (106 & 4(f))

The Consultant shall carry out research and documentation to assist FHWA in carrying out their responsibilities under NEPA, Section 106 and Section 4(f). All work carried out under this task must satisfy all related regulatory requirements.

All research and documentation related to Phase I surveying services, which are necessary to comply with Section 106 of the National Historic Preservation Act (NRHP) shall be prepared by the Consultant under this contract. If a Phase II or Phase III survey is required, additional services (research, testing, and documentation) may be conducted under a supplement to this agreement. All coordination with the State Historic Preservation Officer (SHPO) shall be through the DOTD's Environmental Section or with the express approval of the Environmental Section.

The research, analysis and documentation shall include, but is not limited to the following tasks:

Determine Area of Potential Effect (APE)

The Consultant shall consult with FHWA and the DOTD to develop the APE (direct and indirect) of the project. After FHWA and the DOTD have determined the APE, the agencies shall consult with the SHPO for concurrence. No Phase I cultural resources survey fieldwork survey shall be conducted prior to the delineation of the direct and indirect APE. Each alternative shall require an APE (direct and indirect). No archaeological fieldwork shall be conducted outside of the identified direct APE.

Identify Historic Properties and Background Research

Background research should be conducted on the history and cultural resources of the area. The Consultant shall review previous cultural resource survey reports and compile information on previously recorded archaeological sites, historic structures, and NRHP properties, on file at the Louisiana Division of Archaeology (DOA) and the Louisiana Division of Historic Preservation (DHP). In addition, historic maps and aerial photographs of the APE should be consulted to help document the history of land use. Historical and archival research on alternatives to be surveyed shall also be conducted at this time.

Property Owner Contact and Permission

The Consultant, with the DOTD approval, shall conduct the research necessary to obtain the names/addresses of property owners from whom additional ROW is required. The Consultant shall contact and obtain permission from the property owners prior to accessing their property. All letters should be sent to the DOTD for review and approval prior to mailing. The property owners shall be informed of the need to conduct analysis on any artifacts recovered during survey or testing. If property owners do not grant access to their property, the Consultant shall prepare legal notification letters that shall be forwarded on behalf of the DOTD. These letters shall be sent registered mail return receipt requested. Additionally, copies of any letter that is sent shall be forwarded to the appropriate Sheriff's Office and District Attorney.

Phase I Cultural Resources Survey

A Phase I archaeological survey shall be performed on the alignments of up to three build alternatives to determine the presence of archaeological sites, standing structures approaching 50 years old/older, and other places or objects eligible for listing on the NRHP. The Consultant shall coordinate with the DOTD prior to the initiation of the survey. Any preservation affiliated groups expressing interest in the project should be contacted for additional information prior to survey.

Archaeological Survey

This survey shall follow current Louisiana Division of Archaeology guidelines for Phase I surveys. All archaeological sites shall be recorded on site forms. This team shall also be responsible for revisiting known sites and completing site update forms as required by the Division of Archaeology. Cultural materials (artifacts) recovered from archaeological sites shall be processed, analyzed and catalogued according to the requirements of the DOA. Analysis of the artifacts and other data shall follow currently acceptable scientific methods. According to DOA curation standards, artifacts shall be catalogued and prepared for permanent curation with the Division of Archaeology, or with any other repository designated by the DOTD. A receipt for curation from repository facility shall be submitted to the DOTD's Environmental Section of prior to the end of the contract.

Standing Structure Survey

A standing structure survey shall be conducted within the direct and indirect APE of the project. Any structures that shall meet the 50-year requirement within five years of the Notice to Proceed shall be included in the survey. A five-year buffer is necessary to allow for changes to the project before construction begins. Standing structure survey shall be documented with photographs, a sketch map of their floor plan, and notes on construction details. Louisiana Historic Resource Inventory Standing Structure form shall be completed. This information should be sufficient to permit an evaluation of the structure's eligibility for the NRHP. The Louisiana Historic Resource Inventory Standing Structure excel spreadsheet template available on the DHP website shall be completed and submitted to DHP to obtain Standing Structure Numbers for all previously unreported standing structures 45 years or older within the direct and indirect APE.

Evaluate Historic Significance

If archaeological sites are located that require Phase II test excavations to evaluate their significance, this work may be conducted under a supplement to this agreement. A technical report – that meets or exceeds the Division of Archaeology guidelines for Phase I reports - describing all work efforts undertaken on the project, as well as the results of investigations and analyses, shall be prepared. Recommendations for further work shall be presented. Maps, including USGS 7.5-inch quadrangle maps and exhibits shall be utilized to delineate the project area and the location of any cultural resources. All archaeological sites (to the extent possible with survey level data) and standing structures shall be

evaluated against NRHP criteria as either eligible or ineligible for nomination for the NRHP. The draft Cultural Resources Survey shall be submitted to the DOTD for review; LADOTD shall transmit copies of the report to the SHPO for review. An unbound typed site form or site update form (for previously recorded archaeological sites) and unbound typed Louisiana Historic Resource Inventory Forms (with original black and white photographs affixed to the forms) for each recorded standing structure shall be submitted to the DOTD's Environmental Section along with the draft Cultural Resources Survey. All site forms and site update forms should be finalized prior to submittal of the final report.

Following the DOTD, FHWA, and agency review, the Consultant shall prepare a final Cultural Resources Report for delivery by the DOTD to the SHPO. The final Cultural Resources Survey shall be submitted to the DOTD; the DOTD shall transmit the finals to the SHPO.

Archaeological Fieldwork Phase I survey and Phase II National Register Testing

All fieldwork and recordation for Phase I survey and Phase II testing shall meet current Louisiana Division of Archaeology DOA and Secretary of the Interior Standards. All identified archaeological sites shall be recorded on official Louisiana archaeological site forms. All previously identified sites within the APE shall be revisited and site update forms completed as required by the DOA. Cultural materials (artifacts) recovered from archaeological sites shall be processed and analyzed using accepted archaeological typologies and methods. According to DOA curation standards, artifacts shall be catalogued and prepared for permanent curation with the DOA, or with any other repository designated by DOA. The Phase II fieldwork may involve the excavation of up to 4 1 x 1 m test units (or the equivalent). It is anticipated that excavation shall not exceed this total for all sites identified. Fieldwork must determine NRHP eligibility of the site without exhausting its research potential.

For Phase II testing, if required, a transit or total station shall be used to make an instrument map of the portion of the site within the required right-of-way and to lay out the test units. All material removed from the units shall be screened through 1/4-in wire mesh. Diagnostic artifacts, such as decorated or rim sherds and stone tools, shall be individually plotted during the excavation and assigned specific Field Specimen numbers. A 10-liter sample of soil from each level of all cultural deposits shall be saved for flotation to retrieve botanical and faunal remains, as well as microartifacts. Additional soil samples shall be collected from each stratum for subsequent geologic or radiometric analyses. Floor plans shall be drawn of each level in all units, and photographs taken of all levels containing distinctive features. Individual features, such as postholes, trash pits, hearths, burials, etc., shall be assigned a separate feature number. Each shall be drawn and photographed during the excavation. If features are of sufficient size, they shall be sectioned and half the fill removed. Section drawings shall be produced, and then the remaining feature fill may be removed. Wall profiles for each unit shall be drawn and, if possible, photographed. Once excavation and recordation is completed all units shall be backfilled.

Processing and Analysis of Artifact

Once the fieldwork is completed the artifacts shall be returned to laboratory for washing and cataloging according to the guidelines of the Louisiana Division of Archaeology. The artifacts and other data recovered during the fieldwork shall then be analyzed using currently acceptable scientific methods. Radiocarbon samples collected from undisturbed cultural deposits shall be submitted for dating. All artifacts collected shall be curated with the State Curation Facility in accord with their current standards. A receipt of deposit from the curation facility shall be required.

Report Preparation

The report shall meet current Louisiana Division of Archaeology report standards for Phase I survey and Phase II testing. One report shall be prepared that shall present the finding and recommendation from all research, survey (standing structure and archaeology), and archaeological testing. It is expected that all properties approaching 50 years old/older identified shall include a National Register eligibility and recommendation for future work, if necessary.

The draft Cultural Resources Survey shall be submitted to the DOTD for review; the DOTD shall transmit copies of the report to FHWA, SHPO, and applicable federally recognized tribes for review. Two unbound typed site forms or site update forms (for previously recorded archaeological sites) and two unbound typed Louisiana Historic Resource Inventory Forms (with original black and white photographs affixed to the forms) for each recorded standing structure shall be submitted to the DOTD's Environmental Section along with the draft Cultural Resources Survey. All site forms and site update forms must be finalized prior to submittal of the final report.

Following the DOTD, FHWA, SHPO, and applicable federally recognized tribe review, the Consultant shall prepare a final Cultural Resources Report. The final Cultural Resources Survey shall be submitted to the DOTD; the DOTD shall transmit the finals to FHWA, SHPO, and applicable federally recognized tribes.

Section 106/NEPA Documentation Tasks

Work associated with this task shall involve public outreach and identification of interested parties and other federal, state and local agencies that may have an interest in these historic properties. Any additional historic properties, identified as part of phase I and Phase II, survey shall also be incorporated into this task. Work associated with this task shall include the following:

- Identification of consulting parties
- Scheduling consultation meetings with agencies and interested parties
- Preparing meeting minutes and distribution of minutes
- Preparing supporting documentation for assessment of all alternatives (including rehabilitation of bridges)
- Preparing a decision matrix to highlight impacts to historic properties for each alternative
- Assessment of Adverse Effects

- Preparing a Memorandum of Agreement (MOA) (multiple drafts are anticipated)

Deliverables: The Consultant shall prepare and provide five paper copies, two copies of each revision, and one PDF version of the draft and final report. The Phase I/II report/s shall meet or exceed all Louisiana Division of Archaeology guidelines for fieldwork and reporting. All standing structure forms and archaeological site forms shall be submitted in PDF format. One copy of the curation receipt is required before close of contract.

The Consultant shall provide copies (paper and PDF) of all supporting documents for other Section 106 mentioned above.

Preparation of Section 4(f) Documentation for Historic Sites

Documentation shall be prepared by the Consultant to assist the Federal Highway Administration in their compliance of Section 4(f) of the U.S. DOT Act. The Consultant shall conduct analysis to determine if there are prudent and feasible avoidance alternatives to all identified 4(f) Historic Sites. The Section 4(f) Statement shall be included in the Appendix of the EA and distributed to requisite agencies. Outcome of the analysis shall result in the preparation of the following documents:

De Minimis Impact Determination

Programmatic Evaluation

Individual Section 4(f) Evaluation

Deliverables: Five paper copies and one electronic copy in PDF format on a labeled CD shall of 4(f) evaluation/s for all historic sites identified within the study area.

Assess Adverse Effects

The Consultant shall consult with FHWA, DOTD, and the SHPO concerning the potential effect of the project on any historic properties identified in the project APE. If there is agreement that one or more properties shall be affected, then the Consultant shall prepare Section 106 Adverse Effect Documentation in order to determine whether or not the properties shall be adversely affected. If the number of sites requiring documentation exceeds five properties, the additional work may be conducted under a supplement to this agreement.

Memorandum of Agreement (MOA) for Resolution of Adverse Effects

If historic properties shall be adversely affected, the Consultant shall consult with FHWA, DOTD, the SHPO, and other interested parties, such as local historical groups, to attempt to resolve the adverse effects through avoidance or some form of mitigation. If any of the historic properties are prehistoric archaeological sites, the appropriate authorities (i.e. THPO) shall be consulted as well. If the adverse effects cannot be avoided, the Consultant shall prepare an MOA that discusses the mitigation measures agreed upon, identifies who is responsible for carrying them out, and provides documentary evidence that the agency is following the requirements of Section 106. The MOA shall be submitted to the DOTD for review, comment, and removal.

M. Socio-Economic / Community Impacts

The Consultant shall evaluate the social and economic impacts, including any adverse effects of the proposed actions, on the local community. The Consultant shall collect compiled summary demographics on the project area. Discussion shall include anticipated permanent and temporary impacts of the proposed project on the established business districts, land uses, community services/facilities, and residents in the project vicinity, as well as impacts to planned developments known by public officials at the time of data collection. Projects in the study area shall be researched by the Consultant through contact with local planning officials, public safety officials, school officials, and organizations in an effort to determine other long-range plans, upcoming projects, or planned developments. Consistency with these plans shall be assessed and documented.

N. Environmental Justice

Available U.S. Bureau of the Census population and other source data shall be used as a basis to identify low-income, and minority populations in the entire study area. This data shall be augmented with “windshield” surveys and contacts with local officials and community leaders in the study area to determine if such communities are present in the study area. No household or resident interviews/surveys (i.e., face-to-face or telephone calls) are included in this scope of services. The Consultant shall identify likely minority and/or low-income communities within the study area and assess whether the project shall have any disproportionate adverse impacts to these populations in accordance with Executive Order 12898 and the Department of Transportation Order on Environmental Justice 5610.2. Any instances where Title VI populations bear the bulk of project-related impacts shall be reported to the DOTD’s Environmental Section, and the Consultant shall evaluate possible mitigation or enhancement measures to reduce or lessen adverse impacts, if any, on the community.

All reasonable and foreseeable adverse social, economic, and environmental effects on minority and low-income populations must be identified and addressed in the EA document. Adverse effects include, but are not limited to:

- Air, noise, and water pollution and soil contamination.
- Destruction or disruption of man-made or natural resources.
- Destruction or diminution of aesthetic values.
- Destruction or disruption of community cohesion or a community's economic vitality.
- Destruction or disruption of the availability of public and private facilities and services.
- Vibration.
- Adverse employment effects.
- Displacement of persons, businesses, farms, or nonprofit organizations.
- Increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community.
- The denial of, reduction in, or significant delay in the receipt of, benefits of DOT programs, policies, or activities.

O. Relocations and Conceptual Stage Relocation Plan

The Consultant shall confirm whether the proposed alternatives result in any relocation of businesses or residences. In the event an alternative results in relocation impacts, the Consultant shall prepare a Conceptual Stage Relocation Plan in accordance with the requirements of the Louisiana DOTD's Office of Right of Way Operations Manual and 49CFR Part 24 § 24.205a. The results of the plan shall be summarized in the EA. The scope of the plan shall include:

- a. An estimate of the number of households to be displaced including information such as owner/tenant status, estimated value and rental rates of properties to be acquired, family characteristics, and special consideration of the impacts on minorities, the elderly, large families, and persons with disabilities when applicable. Environmental Justice considerations shall also be reviewed.
- b. The type of dwelling (mobile home, frame, brick) to be acquired or adversely impacted.
- c. The location and quantity of available comparable replacement housing; if none is available, the estimated cost to build new housing; or whether any displacements have sufficient remainder on which to move or build. Should comparable replacement housing not be available, other methods in addition to new construction, shall be evaluated as part of a possible Housing of Last Resort program as provided for under Section 206A of the Uniform Act.
- d. The location and types of businesses, farms and non-profit organizations to be displaced, the race of the owner, estimated number of employees, by race, bypassed businesses if applicable, and a listing of available commercial buildings and sites.
- e. An estimate of the availability of replacement business sites. When an adequate supply of replacement business sites is not expected to be available, the impacts of displacing the businesses shall be considered and addressed. An analysis of business moving problems for those displaced businesses which are reasonably expected to involve complex or lengthy moving processes, or small businesses with limited financial resources and/or few alternative relocation sites shall be included.
- f. The functional replacement of a publicly-owned facility, if applicable, and the existence of publicly-owned recreation lands.
- g. The estimated cost of relocation assistance.
- h. Consideration of any special relocation advisory services that may be necessary from the displacing Agency and other cooperating Agencies.

The data collected for the plan shall be from secondary sources and field observations. Interviews shall not be conducted with those families and businesses potentially affected by the various alternatives.

The Consultant shall develop a preliminary cost estimate for each project alternative. The project costs shall include estimates for all right-of-way acquisition costs. Estimates for right-of-way shall include all land and improvements situated within the proposed right-of-way (all alternates considered). Additionally, the right-of-way estimate should include the estimated cost for land as well as improvements not in the required area, but possibly impacted by the proposed project. The right-of-way cost estimate should take into consideration damages, etc. that may accrue due to the proposed project (all alternates considered).

If a proposed project shall not result in relocation impacts this must be documented within the EA document.

Deliverables: Five paper copies and one PDF version of the conceptual relocation plan including completed Real Estate Needs Checklist and Cost Estimate Appraiser Checklist for study area.

P. Section 4(f) of the Department of Transportation Act

Research, analysis, and documentation of compliance with Section 4(f) of the Department of Transportation (DOT) Act shall be conducted for any publicly owned recreational and park land, wildlife, waterfowl refuges, and/or historic site affected by the build alternatives. The Consultant shall coordinate with agencies and entities with jurisdiction of any 4(f) property to develop appropriate mitigation. The Consultant shall draft appropriate Section 4(f) documentation for all such properties. Any such documentation shall be submitted to LADOTD, FHWA and other necessary agencies for review, comments, and approval. Section 4(f) documentation for all Section 4(f) must be developed according to FHWA rules, regulations, and guidelines. The approved Section 4(f) Statement shall be included in an appendix of the EA with FONSI. Up to two (2) meetings with federal, state, and local officials required for coordination regarding Section 4(f) and are included in this scope.

Deliverables: Five paper copies and one PDF version of 4(f) evaluation and 4(f) statement for all identified 4(f) properties within the project study area. Evaluations may include the following:

- De Minimis Impact Determination
- Programmatic Evaluation
- Individual Section 4(f) Evaluation

Q. Sections 6(f) of the Land and Water Conservation Fund Act Resources

Resources in the project area built using the Land and Water Conservation Act funds shall be identified by the Consultant. If such resources are present, the Consultant shall prepare all documentation for the coordination with the appropriate agencies in accordance with Section 6(f) of the Department of Transportation (DOT) Act. Up to two meetings with state and local officials required for coordination regarding Section 6(f) are included in this scope.

R. Utilities Effects Summary

The Consultant shall identify all utilities within the study area and the need for relocation based on proposed alternatives. Any impact associated with the installation of new or relocation of existing utilities features shall be appropriately addressed in the EA.

S. Floodplains

The Consultant shall utilize Federal Emergency Management Agency (FEMA) published Flood Insurance Rate Maps (FIRMS) to assess the location of floodplains and conduct impact assessments. The Consultant shall also coordinate with the local floodplain administrator relative to quantifying impacts.

The Consultant shall need to coordinate and document coordination with the parish flood plain administrator on required permits

T. Indirect, Cumulative, and Temporary Construction Effects

The Consultant shall analyze indirect, cumulative, and temporary construction effects associated with the various alternatives. This analysis shall assure that all project actions shall minimize future social, economic and environmental impacts.

U. Safety Analysis

The safety analysis shall include a crash data analysis and a quantitative estimate of expected safety performance of each alternative.

The crash data analysis shall include determining the predominant crash patterns, locations, and any pertinent time of day or weather distribution based on existing conditions along LA 447. The Consultant shall prepare collision diagrams for locations where predominant crashes have occurred.

The expected safety performance of each alternative shall be estimated for each potential alternative using the predictive methods that are described in the Highway Safety Manual, 1st Edition. Interactive Highway Safety Design Model (IHSDM) or an Excel worksheet based on IHSDM shall be used to analyze safety performance of each alternative. A relative comparison shall be provided to show the differences in expected safety performance between each alternative, including the existing condition. Projects including interchanges, may require the use of iSATe. As appropriate, the safety analysis will evaluate the alternatives effect on pedestrian, bicycle, and public accessibility safety in the project area.

V. Other Impacts

The Consultant shall consider and evaluated other issues that may be included in the EA impact discussion including but not limited to:

- Items of special or local interest should also be noted and evaluated within the context of the project.

- Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks
- LADOTD's Complete Streets Policy
- LADOTD's Context Sensitive Solution (CSS) Policy
- Climate change
- Possible detours and their effect
- Sequence of construction and other construction impacts
- Special construction times needed to alleviate undue travel time during, harvest, congestion, etc.

As required, the Consultant shall prepare necessary documentation and conduct appropriate coordination with local, state, and/or federal agencies to thoroughly document project related impacts.

W. Environmental Inventory / Summary

The Consultant shall perform an Environmental Inventory of LA 447 Corridor Study area. The Environmental Inventory shall consist of database searches that shall identify and map all major environmental concerns, issues, and sites within the corridor. The Inventory shall be based on secondary data, such as limited field surveys, EPA and state databases, traffic data, accident data, National Wetland Inventory maps, infrared photography, aerial photography, cultural resources data, wildlife areas, extensive literary research, coordination and interviews with local, state and federal agencies and officials, U.S. Geological Surveys, soil surveys, census data, etc. Areas of environmental concerns shall be delineated on exhibits.

TASK #4 - COST ESTIMATE

The Consultant shall develop a preliminary cost estimate for each proposed project alternative. The project costs shall include estimates for all engineering design, ROW acquisition, construction, utility relocation, and mitigation costs. Estimates for ROW shall include all land and improvements situated within the proposed ROW. Additionally, the ROW cost estimate should include the estimated cost for land, as well as improvements not in the required ROW, but possibly impacted by the proposed project. The ROW cost estimate should take into consideration damages, etc. that may accrue due to the proposed project.

TASK #5 - PROJECT MAPPING AND GIS

The Consultant shall use Geographic Information Systems (GIS) to illustrate characteristics of the study area. All project mapping shall adhere to the DOTD GIS guidelines (see Miscellaneous Section). The Consultant shall collect available GIS data, establish the study area base map with aerial photography and incorporated collected project data.

Deliverables: One electronic copy in PDF format on a labeled CD of the Consultant's Standard Operating Procedures (SOP) for the production and maintenance of GIS data. Five paper copies, one PDF of the study area maps generated and an one electronic copy of GIS data generated as part of study.

TASK #6- DRAFT EA DOCUMENT

The Consultant shall prepare the draft EA documents in accordance with FHWA's guidelines. Fifteen copies of the draft document shall be provided to the DOTD's Environmental Section for review, comment, and distribution. For each round of revision, an additional fifteen documents shall be required. All comments, including those received at the Public Meeting(s), shall be addressed by the Consultant in the draft EA prior to the DOTD's Environmental Section requesting approval from FHWA for public distribution.

Distribution of the draft EA shall be the responsibility of the Consultant. The Consultant shall submit the EA distribution list for review and approval to the DOTD. For each round of review, the Consultant shall prepare a summary of the comments received on the draft EA to facilitate review by the DOTD. This summary shall also identify the changes made in order to address to the comments.

The draft and final EA document shall be typed, single-spaced, on 8.5 x 11 inch paper with inside margins of not less than 1 inch wide. All pages shall be numbered. Photographs, plans, maps, drawings, and text must be clear and clean with typed or mechanically lettered captions. Exhibits utilizing the 8.5 x 11 inch format are preferred, but 11 x 17 inch folded pages are acceptable.

TASK #7- FINAL EA DOCUMENT/FONSI

The Consultant shall prepare the final EA documents in accordance with FHWA's guidelines. Upon close of the Public comment period and Public Hearing, up to fifteen (15) copies of the Final EA addressing comments shall be submitted to the DOTD for review and comment. After approval by the DOTD's Environmental Section of the final documents and issuance by FHWA of the FONSI, the EA FONSI shall be distributed by the Consultant.

Seventy (70) copies of the final approved EA document, including the FONSI, shall be distributed by the Consultant. Five labeled CDs with one PDF electronic copy of the final document shall be provided. The DOTD Environmental Coordinator shall provide the mailing list to be used for distribution of the FONSI.

The Consultant's name and logo shall not appear on the cover of the document; however, they may appear on the inside cover sheet in a size not to exceed the DOTD's name and logo. A copy of the Draft EA, Final EA, and FONSI shall be provided in the PDF file format.

MISCELLANEOUS

- On all correspondence with the DOTD's Environmental Section, the Consultant shall use all applicable state project numbers (i.e., engineering and construction), along with the "H" number, Federal aid project number, project name, route number, and parish.
- All correspondence pertaining to the preparation of the EA project shall be directed to the LADOTD's Environmental Coordinator with the DOTD Project Manager and other LADOTD Team member appropriately cc'd.

- The Consultant shall arrange, conduct, and summarize a kick-off meeting with the project team within 10 days of receiving the Notice To Proceed (NTP). The Consultant shall prepare and submit a progress schedule and coordination plan at the kick-off meeting reviewed by internal team members. Agenda items for this meeting shall include the review points and durations, time-frame assumptions built into the project schedules, invoicing procedures, progress reporting, and plans for early coordination of public involvement.
- The Consultant shall notify the DOTD Environmental Coordinator a minimum of two weeks prior to any fieldwork. The Consultant shall notify the LADOTD's Environmental Coordinator when fieldwork begins and ends. The Consultant shall also update the LADOTD's Environmental Coordinator bi-weekly as to their progress in the field.
- All reference materials utilized shall be noted and an accurate and complete bibliography supplied to the DOTD with the draft and final documents. Accessibility and location of all reference material or otherwise not easily accessible material shall be noted (i.e., library location, etc.). Utilization of unpublished material or otherwise not easily accessible material shall be specifically coordinated with the Environmental Section prior to its use in the document. Copies of web-based data shall be appropriately collected at time of access. The full web address and date of access for such resources shall be accurately recorded in the bibliography.
- The Consultant shall provide the DOTD's Environmental Section with a detailed monthly progress report. The report shall include the estimated and actual date of completion of each task to be performed, work conducted during the reporting period, anticipated future work and issues of concerned.
- The Consultant shall use Geographic Information Systems (GIS) to illustrate characteristics of the study area and to assist in the assessment of the effects of alternatives under consideration. The Consultant shall compile metadata files for data used in the project and develop metadata files for new data layers in accordance with the Content Standard for Digital Geospatial Metadata, Vers. 2 (FGDC-STD-001-1998), the federal Metadata standard. Aerial photography shall be the preferred base map for exhibits to be used both in the EA and for presentation during the public meetings and hearing. This map shall be used to overlay environmental constraints and environmentally sensitive areas located within the study area. Readily available data and field-determined data shall be mapped and collected for use in describing the existing conditions in the study area and to provide a baseline condition against which future impact projections shall be based.
- Prior to any fieldwork, the Consultant shall obtain required landowner permission. Property owners from whom additional ROW shall be required shall be contacted with a certified return receipt right-of-entry letter (template letter supplied by the DOTD) prior to the fieldwork in order to notify landowner of proposed environmental work on their property. The Consultant shall contact LA One Call in advance of conducting fieldwork to locate underground utility lines in areas where subsurface testing shall be conducted.

EA DELIVERABLES

The month and year of the submittal shall be identified on the report cover and on the transmittal document for all versions. Technical reports submitted for review shall not be identified as “DRAFT” and shall be considered “FINAL” if no revisions are required as determined by FHWA and DOTD. The month and year of the submittal shall be identified on the report cover and on the transmittal document for all versions. The only deliverables that shall be identified as “DRAFT” or “FINAL” are the Draft and Final EA documents. The Consultant shall prepare a draft and a revised version(s) of each deliverable that addresses one consolidated list of comments on the deliverable, which has been compiled and/or approved by the Client for incorporation by the Consultant. Up to the noted number of copies of the following deliverables shall be provided during the contract performance period.

Description	Draft Copies	Revised Copies (During each round of review)	Final Copies	PDF on Labeled CD
Work Plan & Schedule	1	1	3	
Logical Termini Request	1	1	3	
Solicitation of Views	1	1	Up to 100	
Public Meeting(s) Summary/Transcript	4		Up to 50	1
Public Hearing Summary/Transcript	4		Up to 50	1
Bridge and Roadway Typical Sections	3 to 8	3 to 8	5	
Conceptual Alternatives' Geometric Layouts	1	1		
Alternatives Analysis Memorandum	3	1	10	
Wetlands Finding Report	5	2	5	1
Biological Field Survey Report	5	2	5	1
Biological Assessment (if required)	5	2	5	1
Phase I ESA Report	5	3	5	1
Traffic Noise Analysis Protocol	1			
Noise Study	4	3	5	1

Cultural Resources Phase I Report	5	5	5	1
Cultural Resources Site Forms			2	1
Cultural Resources Standing Structure Form			2	1
Conceptual Stage Relocation Plan	2	2	3	1
4(f) Statement (if required)	20	1		
Visual Renderings	2	2	2	1
Draft EA Document	15	15	up to 70	5
Final EA/FONSI Document	15	15	up to 70	5

ROAD DESIGN SCOPE OF SERVICES

LINE AND GRADE

The Consultant will be responsible for undertaking the line and grade study which will include, but not be limited by, the following:

1. Establishment of design criteria (including but not limited to)
 - a. Design class and design speeds
 - b. Lane widths
 - c. Minimum horizontal curvature
 - d. Maximum and minimum side slopes
 - e. Horizontal and vertical clearances
 - f. Maximum roadway grade
2. Development of typical roadway and bridge sections
3. Factors for design consideration
 - a. Alignment development in accordance with the DOTD standards
 - b. Required lane configuration for an acceptable Level of Service
 - c. Develop horizontal geometry
 - d. Develop vertical geometry and set minimum roadway grade
 - e. Identify major drainage structure locations
 - f. Establish approximate Right-of-Way limits
 - g. Develop a list of impacted improvements
 - h. Develop cost estimates for Right-of-Way, Utility relocations, and construction
4. Horizontal alignment
 - a. A preliminary horizontal alignment study will be prepared for each alternative. The alignment should consider major utility conflicts, major drainage structures, existing roadway/bridge geometry, superelevation, and sight distance issues. The final refinement to the alignment will be adjusted based on a constructability review. The final alignment should consider:
 - i. Existing roadway and bridge conditions
 - ii. Maintenance of traffic
 - iii. Location of utilities

- iv. Environmentally sensitive areas
 - v. Topographical features
 - vi. Developed properties
 - vii. Urban constraints
 - viii. Railroad crossing
 - b. A plan view of each horizontal alignment will be prepared on aerial photography. The following geometric data will be displayed on the plan:
 - i. Curve lengths (L)
 - ii. Tangent lengths (T)
 - iii. Curve radii (R)
 - iv. Superelevation rates and transition lengths
 - v. Estimated R/W limits, existing and required
 - vi. Control of Access limits (if applicable)
 - vii. Intersection and/or schematics
 - viii. Baselines and stationing
 - ix. New edge of pavement and shoulder lines
 - x. Curb lines
 - xi. Lane and shoulder dimensions
 - xii. Bridge limits
 - xiii. Existing and relocated utilities, as known
 - xiv. Major drainage features, if any
 - xv. Railroads
 - xvii. Signalized intersections
5. Vertical Alignment
- a. A vertical alignment study will be prepared for each proposed alternative using LIDAR DTM or equal data to create the existing surface. The vertical alignment should consider above ground and below ground utilities, major drainage or structure locations. (0% vertical grades will not be allowed unless approved by DOTD)
 - b. A profile view of each vertical alignment will be prepared in coordination with the plan view shown on aerial photography. The following geometric data will be displayed on the profile:
 - i. Vertical grades
 - ii. P.V.I. locations
 - iii. Length of Vertical curve (V.C.)

The Consultant shall prepare a formal traffic study for the purpose of improving mobility and easing congestion. Traffic alternatives have been developed in the Stage 0 study, therefore the traffic study shall focus on modeling and comparing each alternative utilizing a microsimulation model rather than the empirically-based models utilized for the Stage 0 study. If the selected alternative from the EA document requires an Interchange Justification Report or an Interchange Modification report, these reports are not included as part of this contract.

Line & Grade shall be prepared for each alternative presented at the Public Meeting. This Line & Grade shall illustrate Limits of Construction and ROW takings on the plan view.

BRIDGE DESIGN SCOPE OF SERVICES

The following bridge tasks shall be performed under this contract:

Task 1:

Review Stage 0 report and update design criteria.

Task 2:

Conduct a field visit to the bridge sites, assess the site conditions, and have a reasonable understanding of the existing structure health and its serviceability.

Task 3:

Apply current design criteria and all applicable geometric and environmental constraints and refine the structure geometry. Provide the Line and Grade study (or Plan and Profile sheet) that shows the bridge locations (beginning station and end station of the bridge), required vertical and horizontal clearances, and proposed superstructure types.

Task 4:

Review Stage 0 cost estimate and provide refined construction cost estimate for each structure. Provide engineering cost estimate.

Information provided by DOTD

Stage 0 report

Access to DOTD information (As-built drawings)

Consultant Submittals

The following information shall be included as part of the project submittal:

- Design Criteria
- Updates to Stage 0 analysis results
- Line and Grade Study (or Plan and Profile sheets) shows the bridge locations (beginning and end of bridge), required vertical and horizontal clearances and proposed superstructure types
- Construction cost estimate for each structure
- Engineering cost estimate